Application No. 10/667,301

Reply to Office Action of May 18, 2007

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An image forming apparatus, comprising:

a process cartridge configured to include including a developing device, the

developing device including: eomprising

a developer carrier configured to convey a developer deposited thereon to a

developing zone where said developer carrier faces and an image carrier, and

a toner storing portion configured to store a toner, said developing device

feeding configured to feed said toner from said toner storing portion to said developer carrier;

or said developer deposited on said developer carrier; and

a toner container storing fresh toner to be replenished to said toner storing portion,

said toner container including a toner storing body and a cap rotatably affixed to the toner

storing body, the cap including an opening;

a toner container holder configured to hold the toner container, the toner container

holder fixedly holding the cap while allowing the container body to rotate in order to

dispense the fresh toner from the container body through the opening of the cap; and

a toner conveying device configured to convey the fresh toner received from the

opening of the cap of said toner container to said toner storing portion,

wherein said process cartridge and said toner container each are removably mounted

to said image forming apparatus independently of each other, and toner conveying means for

conveying the fresh toner from said toner container to said toner storing portion by using an

own weight of said fresh toner is mounted on a body of said image forming apparatus.

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2. (Currently Amended) The apparatus as claimed in claim 1, wherein said process cartridge is positioned at a lower level than an outlet of said toner container the opening of the cap.

3. (Currently Amended) The apparatus as claimed in claim 1, wherein said toner container holder is configured such that said toner container is mounted to or dismounted from the a body of said image forming apparatus from above said body.

4. (Canceled)

5. (Currently Amended) The apparatus as claimed in claim [[4]] 1, further comprising:

a shutter mechanism attached to said <u>cap</u> outlet of said <u>support member</u> and movable in a circumferential direction of said <u>cap</u> outlet, and when said <u>support member</u> <u>cap</u> is turned <u>to by</u> a preselected angle, said <u>cap support member</u> is locked to said toner container <u>holder</u> storing means while said shutter mechanism opens said <u>opening of the cap</u> outlet in <u>an</u> interlocked relation to a movement of said <u>cap support member</u>.

6. (Currently Amended) The apparatus as claimed in claim 5, wherein:

said shutter mechanism closes said <u>opening of the cap</u> outlet of said support member when said <u>cap is grip of said support member is held by hand and</u> turned in a direction opposite to <u>a an</u> locking direction to thereby unlock said <u>cap from said toner container holder</u> support member, and said toner container is removed from said body of said apparatus with said grip being held by hand.

7. (Currently Amended) The apparatus as claimed in claim 5, wherein:

when said <u>cap</u> support member is turned relative to said toner storing body after removal of said toner container from said body of said apparatus, said shutter mechanism does not open said <u>opening of said cap</u> outlet of said support member.

8. (Currently Amended) The apparatus as claimed in claim 1, wherein: said toner storing body of the toner container is configured to convey the fresh toner

stored therein in a preselected direction when rotated and is rotatable relative to said cap

support member, and

said toner conveying <u>device operates</u> means is operated in synchronism with a rotation of said toner storing body.

9. (Currently Amended) The apparatus as claimed in claim 8, further comprising:

a shutter mechanism attached to said <u>cap</u> outlet of said <u>support member</u> and movable in a circumferential direction of said <u>cap</u> outlet, and when said <u>support member cap</u> is turned <u>to by</u> a preselected angle, said <u>cap support member</u> is locked to said toner container <u>holder</u> storing means while said shutter mechanism opens said <u>opening of the cap</u> outlet in <u>an</u>

10. (Currently Amended) The apparatus as claimed in claim 9, wherein:

interlocked relation to a movement of said cap support member.

said shutter mechanism closes said opening of the cap outlet of said support member when said cap is grip of said support member is held by hand and turned in a direction opposite to an a locking direction to thereby unlock said cap from said toner container holder support member, and said toner container is removed from said body of said apparatus with said grip being held by hand.

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11. (Currently Amended) The apparatus as claimed in claim 9, wherein:

when said <u>cap</u> support member is turned relative to said toner storing body after

removal of said toner container from said body of said apparatus, said shutter mechanism

does not open said <u>opening of said cap</u> outlet of said support member.

12. (Currently Amended) The apparatus as claimed in claim 1, wherein said toner conveying means device comprises:

a pipe forming a toner conveying path and a coil disposed in said pipe and movable to exert a conveying force on the toner toward a downstream side in a direction of toner conveyance.

- 13. (Currently Amended) The apparatus as claimed in claim 12, further comprising:
 a shutter mechanism attached to said <u>cap</u> <u>outlet of said support member</u> and movable
 in a circumferential direction of said <u>cap</u> <u>outlet</u>, and when said <u>support member cap</u> is turned
 by <u>to</u> a preselected angle, said <u>cap</u> <u>support member</u> is locked to said toner container <u>holder</u>
 storing means while said shutter mechanism opens said <u>opening of the cap</u> <u>outlet</u> in <u>an</u>
 interlocked relation to a movement of said cap <u>support member</u>.
- 14. (Currently Amended) The apparatus as claimed in claim 13, wherein: said shutter mechanism closes said opening of the cap outlet of said support member when said cap is grip of said support member is held by hand and turned in a direction opposite to a an locking direction to thereby unlock said cap from said toner container holder support member, and said toner container is removed from said body of said apparatus with said grip being held by hand.

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15. (Currently Amended) The apparatus as claimed in claim 13, wherein:

when said <u>cap</u> support member is turned relative to said toner storing body after

removal of said toner container from said body of said apparatus, said shutter mechanism

does not open said <u>opening of said cap outlet of said support member</u>.

16. (Currently Amended) The apparatus as claimed in claim 1, further comprising: toner content sensing means for sensing a toner content of the developer present in said developing device, and

control means for controlling replenishment of the toner to said developing device in accordance with an output of said toner content sensing means.

17. (Currently Amended) The apparatus as claimed in claim 1, further comprising:
counting means for counting a number of pixels of an image formed, and
control means for controlling replenishment of the toner to said developing device in
accordance with an output of said counting means.

18. (Currently Amended) The apparatus as claimed in claim 1, wherein: said process cartridge and said toner container respectively comprise at least two process cartridges and at least two toner containers, an intermediate image transferring unit is positioned between at least two process cartridges and said at least two toner containers, and outlets of said at least two toner cartridges, said toner conveying means and outlets of toner storing bodies are positioned at one side of said intermediate image transferring unit.

19. (Currently Amended) The apparatus as claimed in claim 1, wherein:

after mounting of said toner container to said a body of said apparatus, a toner
replenish mode for replenishing the toner to a toner conveying path is effected before
development to thereby prepare said toner conveying path for development, and an operation
of said toner conveying means is varied during said toner replenish mode,

wherein said toner conveying device comprises:

a pipe forming a toner conveying path and a coil disposed in said pipe and movable to exert a conveying force on the toner toward a downstream side in a direction of toner conveyance.

- 20. (Currently Amended) The apparatus as claimed in claim 19, wherein at least part of said pipe is provided with a higher flow passage limiting ability than the other another part of said toner conveying means in said pipe.
- 21. (Currently Amended) The apparatus as claimed in claim 19, further comprising: sensing means for sensing an amount of the toner remaining in the toner conveying path,

wherein the toner replenish mode is ended when said <u>means for</u> sensing means senses a preselected <u>predetermined</u> amount of the toner remaining in said <u>toner</u> conveying path.

22. (Currently Amended) The apparatus as claimed in claim 19, further comprising: time counting means for counting a duration of the toner replenish mode, wherein the toner replenish mode is ended when said counting means counts a preselected predetermined period of time.

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23. (Currently Amended) The apparatus as claimed in claim 19, wherein: said toner container further comprises

a <u>memory for</u> storage for selectively inputting or outputting data relating to said toner container, and

a data processor is mounted on the body of said apparatus for reading of writing said data out of or in said storage.

24. (Currently Amended) The apparatus as claimed in claim [[19]] 23, wherein the further comprising:

means for varying an operation of said toner conveying means is varied during the toner replenish mode in accordance with the data readout of said storage by said data processor in said memory.

25-26. (Canceled)